

Atty Docket No.: JCLA4827-CIP

Serial No.: 10/055,157

M.C.

The floatable precursor fills up the low-lying place, i.e., above the trenches, to protect the thin layer above trenches. Hence, when the thin layer and the insulating layer above the active areas are removed, the insulating layer above the trenches is not hurt.--

Please replace the paragraph beginning at page 4, lines 22, with the following rewritten paragraph :

f2

--The material of the insulating layer 140 includes, for example, silicon oxide, and the formation method of the insulating layer 140 includes, for example, HDPCVD. Since the high density plasma of HDPCVD has an etching effect simultaneously during deposition, the deposition rate to the etching rate ratio can thus be controlled to result in obtaining substantially vertical sidewalls 145 of the insulating layer 140 over the active regions 105 above the substrate 100. For example, by tuning process conditions, including D/S ratio about 4.0, bias (RF power) about 3000kW, temperature about 300-380°C and pressure about 5 mT, a substantially vertical sidewall can be formed. Preferably, the process parameters can be further fine-tuned to obtain substantially vertical sidewalls, as the following exemplary conditions: RF power (top): 1200-1450W; RF power (side): 2900-3380W; RF bias power match box (off); Ar gas flow rate: 80-135 sccm; Ar gas (top) flow rate: 10-20 sccm; O₂ gas flow rate: 188-245 sccm; O₂ gas (top) flow rate: 22-40 sccm; SiH₄ gas flow rate: 100-128 sccm; SiH₄ gas (top) flow rate: 12-22 sccm; and pressure control: T.V. setting 700-880 steps. However, the present invention is not limited by the aforementioned parameters, since these parameters are only exemplary.--

Please replace the paragraph beginning at page 5, lines 13, with the following rewritten paragraph:

f3

--A thin film 150 is formed on the insulting layer 140. The material of the thin film 150 is preferably selected from a material with good removal selectivity over the insulating layer 140. For example, when the insulating layer 140 is made of silicon oxide, the thin film 150 material can be made of silicon nitride or polysilicon. The thickness of the thin film 150 is preferably